What Is Claimed Is:

1. A compound of formula I below, and physiologically acceptable salts thereof, comprising:

wherein, A comprises a direct bond, O or -(CH₂)_IN(R6)-, R6 comprises hydrogen or a C1 to C6 alkyl, and I is an integer from 0 to about 1;

B comprises N or O;

R1 comprises $-(CH_2)_n-Z$,

n is an integer from 0 to about 7,

Z comprises a carbocyclic ring having about 4 to about 7 ring members, a heterocyclic ring having about 4 to about 7 ring members, an aromatic ring having about 5 to about 7 ring members, a heteroaromatic ring having about 5 to about 7 ring members, a bicyclic ring, a heterobicyclic ring, a tricyclic ring, a heterotricyclic ring, a polycyclic ring, a heteropolycyclic ring; or any above group substituted on at least one available ring atom by an alkyl group; or any above group substituted on at least one available ring nitrogen atom by a benzyl group, a substituted benzyl group, an alkoxybenzyl group, a substituted alkoxybenzyl group, a benzhydryl group or a substituted benzhydryl group; and wherein the connecting point between the -(CH₂)_n- group and the Z group can be any available ring carbon atom or any available ring nitrogen atom; or

R1 comprises $-(CH_2)_n-Z$,

n is an integer from 0 to about 7,

Z comprises a 5 member unsaturated ring having 0 to 4 independently selected heteroatoms as ring members, a substituted 5 member unsaturated ring having 0 to 4 independently selected heteroatoms as ring members, a 6 member aromatic ring having 0 to 5 independently selected heteroatoms as ring members or a substituted 6 member aromatic ring having 0 to 5 independently selected heteroatoms; and wherein the connecting point between the -(CH₂)_n- group and the Z group can be any available ring carbon atom or any available ring nitrogen atom; or

R1 comprises $-(CH_2)_n-Z$,

n is an integer from 0 to about 7,

Z comprises 1-, 2- or 3-pyrrolidinyl, 1-, 2-, 3- or 4-piperidinyl, 2-, 3- or 4-morpholinyl, 2-, 3- or 4-thiomorpholinyl, 1-, 2- or 3-azetidinyl, 1- or 2-piperazinyl, 2- or 3-tetrahydrofuranyl; or any above group substituted on at least one available ring atom by an alkyl group; or any above group substituted on at least one available ring nitrogen atom by a benzyl group, a substituted benzyl group, an alkoxybenzyl group, a substituted alkoxybenzyl group, a benzhydryl group or a substituted benzhydryl group; and wherein the connecting point between the -(CH₂)_n- group and the Z group can be any available ring carbon atom or any available ring nitrogen atom; or

R1 comprises $-(CH_2)_n-Z$,

n is an integer from 0 to about 7,

Z comprises

wherein X and Y each independently comprise H, halogen, N_3 , NCS, CN, NO_2 , NX_1X_2 , OX_3 , OAc, O-acyl, O-aroyl, NH-acyl, NH-aroyl, CHO, CF₃, COOX₃, SO₃H, SO₂NX₁X₂, CONX₁X₂, alkoxy, alkylmercapto, alkylamino, di-alkylamino, alkylsulfinyl, alkylsulfonyl or (when Z comprises a structure having two adjacent carbon atoms methylene dioxy,

X₁ and X₂ each independently comprise H or alkyl, or

 X_1 and X_2 together comprise part of a heterocyclic ring having about 4 to about 7 ring members and optionally one additional heteroatom selected from O, N or S, or

X₁ and X2 together comprise part of an imide ring having about 5 to about 6 members,

 X_3 comprises H, alkyl, hydroxyloweralkyl or alkyl- NX_1X_2 ,

X₄ comprises H or alkyl; or

R1 comprises a carbocyclic ring having 6 ring atoms fused to a heterocyclic ring having from 5 to 7 ring atoms, a carbocyclic ring having 6 ring atoms fused to a heteroaromatic ring having from 5 to 7 ring atoms, a heterocyclic ring having 6 ring atoms fused to a heterocyclic ring having from 5 to 7 ring atoms, an heterocyclic ring having 6 ring atoms fused to a heteroaromatic ring having from 5 to 7 ring atoms, an aromatic ring having 6 ring atoms fused to a heterocyclic ring having from 5 to 7 ring atoms, an aromatic ring having 6 ring atoms fused to a heteroaromatic ring having 6 ring atoms, a heteroaromatic ring having 6 ring atoms fused to a heteroaromatic ring having 6 ring atoms fused to a heteroaromatic ring having 6 ring atoms fused to a heteroaromatic ring having 6 ring atoms fused to a heteroaromatic ring having from 5 to 7 ring atoms; or

R2 comprises a carbocyclic ring having about 4 to about 7 members, a heterocyclic ring having about 4 to about 7 members, an aromatic ring having about 5 to about 7 ring members, a heteroaromatic ring having about 5 to about 7

members, a bicyclic ring, a heterobicyclic ring, a tricyclic ring, a heterotricyclic ring, a polycyclic ring or a heteropolycyclic ring; or

wherein G comprises CH or N L and J each independently comprise $(CH_2)_n$, O, NH or S, n is an integer from 0 to about 7; or

wherein G, L and J each independently comprise CH or N; or

R2 comprises

wherein X and Y each independently comprise H, halogen, N_3 , NCS, Ph (phenyl), CN, NO₂, NX₁X₂, OX₃, OAc, O-acyl, O-aroyl, NH-acyl, NH-aroyl, CHO, CF₃, COOX₃, SO₃H, SO₂NX₁X₂, CONX₁X₂, alkyl, alcohol, alkoxy, alkylmercapto, alkylamino, di-alkylamino, alkylsulfinyl or alkylsulfonyl,

X₁ and X₂ each independently comprise H or alkyl, or

 X_1 and X_2 together comprise part of a heterocyclic ring having about 4 to about 7 ring members and optionally a second heteroatom selected from O, N or S, or

X₁ and X2 together comprise part of an imide ring having about 5 to about 6 members,

X₃ comprises H, alkyl, hydroxyloweralkyl or alkyl-NX₁X₂; or

R2 comprises a carbocyclic ring having 6 ring atoms fused to a heterocyclic ring having from 5 to 7 ring atoms, a carbocyclic ring having 6 ring atoms fused to a heteroaromatic ring having from 5 to 7 ring atoms, a heterocyclic ring having 6 ring atoms fused to a heterocyclic ring having from 5 to 7 ring atoms, an heterocyclic ring having 6 ring atoms fused to a heteroaromatic ring having from 5 to 7 ring atoms, an aromatic ring having 6 ring atoms fused to a heterocyclic ring having from 5 to 7 ring atoms, an aromatic ring having 6 ring atoms fused to a heteroaromatic ring having from 5 to 7 ring atoms, a heteroaromatic ring having 6 ring atoms fused to a heteroaromatic ring having 6 ring atoms fused to a heteroaromatic ring having 6 ring atoms fused to a heteroaromatic ring having 6 ring atoms fused to a heteroaromatic ring having from 5 to 7 ring atoms;

R3 comprises H, halogen, N_3 , NCS, Ph, CN, NO₂, NX₁X₂, OX₃, OAc, O-acyl, O-aroyl, O(CH₂)_dOH, O(CH₂)_dNX₁X₂, NH-acyl, NH-aroyl, CHO, CF₃, COOX₃, SO₃H, SO₂NX₁X₂, CONX₁X₂, alkyl, alcohol, alkoxy, alkylmercapto, alkylamino or di-alkylamino, alkylsulfinyl or alkylsulfonyl,

X₁ and X₂ each independently comprise H or alkyl, or

 X_1 and X_2 together comprise part of a heterocyclic ring having about 4 to about 7 ring members and optionally a second heteroatom selected from O, N or S, or

X₁ and X2 together comprise part of an imide ring having about 5 to about 6 members,

 X_3 comprises H, alkyl, hydroxyloweralkyl or alkyl-NX₁X₂, d is an integer from 0 to about 6; or

R3 comprises a carbocyclic ring having about 4 to about 7 ring members, a heterocyclic ring having about 4 to about 7 ring members, an aromatic ring having about 5 to about 7 ring members, a heteroaromatic ring having about 5 to about 7 ring members, a bicyclic ring, a heterobicyclic ring, a tricyclic ring, a heterotricyclic ring, a polycyclic ring or a heteropolycyclic ring; or

R3 comprises

R3 comprises -CH₂-Z,

Z comprises H, halogen, N₃, NCS, Ph, CN, NO₂, NX₁X₂, OX₃, OAc, O-acyl, O-aroyl, O(CH₂)_dOH, O(CH₂)_dNX₁X₂, NH-acyl, NH-aroyl, CHO, CF₃, COOX₃, SO₃H, SO₂NX₁X₂, CONX₁X₂, alkyl, alcohol, alkoxy, alkylmercapto, alkylamino, di-alkylamino, alkylsulfinyl or alkylsulfonyl,

X₁ and X₂ each independently comprise H or alkyl, or

 X_1 and X_2 together comprise part of a heterocyclic ring having about 4 to about 7 ring members and optionally a second heteroatom selected from O, N or S, or

 X_1 and X_2 together comprise part of an imide ring having about 5 to about 6 members,

 X_3 comprises H, alkyl, hydroxyloweralkyl or alkyl-NX₁X₂, d is an integer from 0 to about 6; or

R3 comprises –CH₂OH or –CH₂Oalkyl; or

R3 comprises –CH₂–Z,

Z comprises a carbocyclic ring having about 4 to about 7 ring members, a heterocyclic ring having about 4 to about 7 ring members, an aromatic ring having about 5 to about 7 ring members, a heteroaromatic ring having about 5 to about 7 ring members, a bicyclic ring, a heterobicyclic ring, a tricyclic ring or a heterotricyclic ring; or any above

group substituted on at least one available ring atom by an alkyl group; or any above group substituted on at least one available ring nitrogen atom by a benzyl group, a substituted benzyl group, an alkoxybenzyl group, a substituted alkoxybenzyl group, a benzhydryl group or a substituted benzhydryl group; and wherein the connecting point between the -(CH₂)_n-group and the Z group can be any available ring carbon atom or any available ring nitrogen atom; or

R3 comprises -CH₂-Z,

Z comprises 1-, 2- or 3-pyrrolidinyl, 1-, 2-, 3- or 4-piperidinyl, 2-, 3- or 4-morpholinyl, 2-, 3- or 4-thiomorpholinyl, 1-, 2- or 3-azetidinyl, 1- or 2-piperazinyl, 2- or 3-tetrahydrofuranyl; or any above group substituted on at least one available ring nitrogen atom by a benzyl group, a substituted benzyl group, an alkoxybenzyl group, a substituted alkoxybenzyl group, a benzhydryl group or a substituted benzhydryl group; and wherein the connecting point between the -(CH_2)_n- group and the Z group can be any available ring carbon atom or any available ring nitrogen atom; or

R3 comprises $-CH_2-Q-(CH_2)_n-Z$,

Q comprises N, O, S, CH₃, SO₂ or OSO₂,

n is an integer from 0 to about 7,

Z comprises H, halogen, N₃, NCS, Ph, CN, NO₂, NX₁X₂, OX₃, OAc, O-acyl, O-aroyl, NH-acyl, NH-aroyl, O(CH₂)_dOH, O(CH₂)_dNX₁X₂, CHO, CF₃, COOX₃, SO₃H, SO₂NX₁X₂, CONX₁X₂, alkyl, alcohol, alkoxy, alkylmercapto, alkylamino, di-alkylamino, alkylsulfinyl or alkylsulfonyl,

X₁ and X₂ each independently comprise H or alkyl, or

 X_1 and X_2 together comprise part of a heterocyclic ring having about 4 to about 7 ring members and optionally a second heteroatom selected from O, N or S, or

X₁ and X2 together comprise part of an imide ring having about 5 to about 6 members,

 X_3 comprises H, alkyl, hydroxyloweralkyl, or alkyl-N X_1X_2 , d is an integer from 0 to about 6; or

R3 comprises $-CH_2-Q-(CH_2)_n-Z$,

Q comprises N, O, S, CH₃, SO₂ or OSO₂,

n is an integer from 0 to about 7,

Z comprises a carbocyclic ring having about 4 to about 7 ring members, a heterocyclic ring having about 4 to about 7 ring members, an aromatic ring having about 5 to about 7 ring members, a heteroaromatic ring having about 5 to about 7 ring members; or any above group substituted on at least one available ring atom by an alkyl group; or any above group substituted on at least one available ring nitrogen atom by a benzyl group, a substituted benzyl group, an alkoxybenzyl group, a substituted benzhydryl group; and wherein the connecting point between the -(CH₂)_n-group and the Z group can be any available ring carbon atom or any available ring nitrogen atom; or

R3 comprises $-CH_2-Q-(CH_2)_n-Z$,

Q comprises N, O, S, CH₃, SO₂ or OSO₂,

n is an integer from 0 to about 7,

Z comprises 1-, 2- or 3-pyrrolidinyl, 1-, 2-, 3- or 4-piperidinyl, 2-, 3- or 4-morpholinyl, 2-, 3- or 4-thiomorpholinyl, 1-, 2- or 3-azetidinyl, 1- or 2-piperazinyl, 2- or 3-tetrahydrofuranyl; or any above group substituted on at least one available ring atom by an alkyl group; or any above group substituted on at least one available ring nitrogen atom by a benzyl group, a substituted benzyl group, an alkoxybenzyl group, a substituted alkoxybenzyl group, a benzhydryl group or a substituted benzhydryl group; and wherein the connecting point between the -(CH₂)_n- group and the Z group can be any available ring carbon atom or any available ring nitrogen atom; or

R3 comprises $-CH_2-Q-(CH_2)_n-Z$,

Q comprises N, O, S, CH₃, SO₂ or OSO₂,

n is an integer from 0 to about 7,

Z comprises

$$- \bigvee_{N}^{X} \bigvee_{N}^{Y} \bigvee_{N}^{X} \bigvee_$$

wherein X and Y each independently comprise H, halogen, N₃, NCS, CN, NO₂, NX₁X₂, OX₃, OAc, O-acyl, O-aroyl, NH-acyl, NH-aroyl, CHO, CF₃, alcohol, COOX₃, SO₃H, SO₂NX₁X₂, CONX₁X₂, alkoxy, alkylmercapto, alkylamino, di-alkylamino, alkylsulfinyl, alkylsulfonyl or (when Z comprises a structure having two adjacent carbon atoms) methylene dioxy,

X₁ and X₂ each independently comprise H or alkyl, or

 X_1 and X_2 together comprise part of a heterocyclic ring having about 4 to about 7 ring members and optionally a second heteroatom selected from O, N or S, or

X₁ and X2 together comprise part of an imide ring having about 5 to about 6 members,

 X_3 comprises H, alkyl, hydroxyloweralkyl or alkyl- NX_1X_2 ;

R4 comprises $-(CH_2)_n-Z$,

n comprises an integer from 0 to about 7,

Z comprises H, halogen, N_3 , NCS, CN, NO_2 , NX_1X_2 , OX_3 , OAc, O-acyl, O-aroyl, NH-acyl, NH-aroyl, $O(CH_2)_dOH$, $O(CH_2)_dNX_1X_2$, CHO, CF_3 , $COOX_3$, SO_3H , $SO_2NX_1X_2$, $CONX_1X_2$, alkoxy, alkylmercapto, alkylamino, di-alkylamino alkylsulfinyl or alkylsulfonyl,

X₁ and X₂ each independently comprise H or alkyl, or

 X_1 and X_2 together comprise part of a heterocyclic ring having about 4 to about 7 ring members and optionally a second heteroatom selected from O, N or S, or

 X_1 and X_2 together comprise part of an imide ring having about 5 to about 6 members,

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 X_3 comprises H, alkyl, hydroxyloweralkyl or alkyl-NX₁X₂, d is an integer from 0 to about 6; or

R4 comprises $-(CH_2)_n-Z$,

n comprises an integer from 0 to about 7,

Z comprises a carbocyclic ring having about 4 to about 7 ring members, a heterocyclic ring having about 4 to about 7 ring members, an aromatic ring having about 5 to about 7 ring members, a heteroaromatic ring having about 5 to about 7 ring members, a bicyclic ring, a heterobicyclic ring, a polycyclic ring, a heteropolycyclic ring; or any above group substituted on at least one available ring atom by an alkyl group; or any above group substituted on at least one available ring nitrogen atom by a benzyl group, a substituted benzyl group, an alkoxybenzyl group, a substituted alkoxybenzyl group, a benzhydryl group or a substituted benzhydryl group; and wherein the connecting point between the -(CH₂)_n-group and the Z group can be any available ring carbon atom or any available ring nitrogen atom; or

R4 comprises $-(CH_2)_n-Z$,

n comprises an integer from 0 to about 7,

Z comprises 1-, 2- or 3-pyrrolidinyl, 1-, 2-, 3- or 4-piperidinyl, 2-, 3- or 4-morpholinyl, 2-, 3- or 4-thiomorpholinyl, 1-, 2- or 3-azetidinyl, 1- or 2-piperazinyl, 2- or 3-tetrahydrofuranyl; or any above group substituted on at least one available ring atom by an alkyl group; or any above group substituted on at least one available ring nitrogen atom by a benzyl group, a substituted benzyl group, an alkoxybenzyl group, a substituted alkoxybenzyl group, a benzhydryl group or a substituted benzhydryl group; and wherein the connecting point between the -(CH₂)_n- group and the Z group can be any available ring carbon atom or any available ring nitrogen atom; or

R4 comprises $-(CH_2)_n-Z$,

n comprises an integer from 0 to about 7,

Z comprises

wherein X and Y each independently comprise H, halogen, N_3 , NCS, CN, NO_2 , NX_1X_2 , OX_3 , OAc, O-acyl, O-aroyl, NH-acyl, NH-aroyl, alcohol, CHO, CF₃, COOX₃, SO₃H, SO₂NX₁X₂, CONX₁X₂, alkoxy, alkylmercapto, alkylamino, di-alkylamino, alkylsulfinyl, alkylsulfonyl or (when Z comprises a structure having two adjacent carbon atoms) methylene dioxy,

X₁ and X₂ each independently comprise H or alkyl, or

X₁ and X₂ together comprise part of a heterocyclic ring having about 4 to about 7 ring members and optionally a second heteroatom selected from O, N or S, or

X₁ and X2 together comprise part of an imide ring having about 5 to about 6 members,

 X_3 comprises H, alkyl, hydroxyloweralkyl or alkyl- $\mathsf{NX}_1\mathsf{X}_2$,

X₄ comprises H or alkyl; or

R4 comprises $-(CH_2)_n-Z$,

n comprises an integer from 0 to about 7,

Z comprises an unsaturated ring having 5 ring atoms and 0 to 4 independently selected heteroatoms as ring members fused to an unsaturated ring having 5 ring atoms and 0 to 4 independently selected

heteroatoms as ring members, an unsaturated ring having 5 ring atoms and 0 to 4 independently selected heteroatoms as ring members fused to an unsaturated ring having 6 or 7 ring atoms and 0 to 5 independently selected heteroatoms as ring members or an unsaturated ring having 6 ring atoms and 0 to 5 independently selected heteroatoms as ring members fused to an unsaturated ring having 6 or 7 ring atoms and 0 to 5 independently selected heteroatoms as ring members; or

R4 comprises $-CH_2-Q-(CH_2)_n-Z$,

Q comprises N, O, S, CH₃, SO₂ or OSO₂,

n is an integer from 0 to about 7,

Z comprises H, halogen, N₃, NCS, CN, NO₂, NX₁X₂, OX₃, OAc, O-acyl, O-aroyl, O(CH₂)_dOH, O(CH₂)_dNX₁X₂, NH-acyl, NH-aroyl, CHO, CF₃, COOX₃, SO₃H, SO₂NX₁X₂, CONX₁X₂, alkoxy, alkylmercapto, alkylamino or di-alkylamino,

X₁ and X₂ each independently comprise H or alkyl, or

 X_1 and X_2 together comprise part of a heterocyclic ring having about 4 to about 7 ring members and optionally a second heteroatom selected from O, N or S, or

 X_1 and X_2 together comprise part of an imide ring having about 5 to about 6 members,

X₃ comprises H, alkyl, hydroxyloweralkyl, or alkyl-NX₁X₂, d is an integer from 0 to about 6; or

R4 comprises $-CH_2-Q-(CH_2)_n-Z$,

Q comprises N, O, S, CH₃, SO₂ or OSO₂,

n is an integer from 0 to about 7,

Z comprises a bicyclic ring, a heterobicyclic ring, a tricyclic ring, a heterotricyclic ring, a polycyclic ring or a heteropolycyclic ring; or

R4 comprises $-CH_2-Q-(CH_2)_n-Z$,

Q comprises N, O, S, CH₃, SO₂ or OSO₂,

n is an integer from 0 to about 7,

Z comprises a carbocyclic ring having about 4 to about 7 ring members, a heterocyclic ring having about 4 to about 7 ring members, an aromatic ring having about 5 to about 7 ring members, a heteroaromatic ring having about 5 to about 7 ring members; or any above group substituted on at least one available ring atom by an alkyl group; or any above group substituted on at least one available ring nitrogen atom by a benzyl group, a substituted benzyl group, an alkoxybenzyl group, a substituted alkoxybenzyl group, a benzhydryl group or a substituted benzhydryl group; and wherein the connecting point between the -(CH₂)_n-group and the Z group can be any available ring carbon atom or any available ring nitrogen atom; or

R4 comprises $-CH_2-Q-(CH_2)_n-Z$,

Q comprises N, O, S, CH₃, SO₂ or OSO₂,

n is an integer from 0 to about 7,

Z comprises 1-, 2- or 3-pyrrolidinyl, 1-, 2-, 3- or 4-piperidinyl, 2-, 3- or 4-morpholinyl, 2-, 3- or 4-thiomorpholinyl, 1-, 2- or 3-azetidinyl, 1- or 2-piperazinyl, 2- or 3-tetrahydrofuranyl; or any above group substituted on at least one available ring atom by an alkyl group; or any above group substituted on at least one available ring nitrogen atom by a benzyl group, a substituted benzyl group, an alkoxybenzyl group, a substituted alkoxybenzyl group, a benzhydryl group or a substituted benzhydryl group; and wherein the connecting point between the -(CH₂)_n- group and the Z group can be any available ring carbon atom or any available ring nitrogen atom; or

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R4 comprises $-CH_2-Q-(CH_2)_n-Z$,

Q comprises N, O, S, CH₃, SO₂ or OSO₂,

n is an integer from 0 to about 7,

Z comprises

wherein X and Y each independently comprise H, halogen, N_3 , NCS, CN, NO_2 , NX_1X_2 , OX_3 , OAc, O-acyl, O-aroyl, NH-acyl, NH-aroyl, alcohol, CHO, CF₃, alcohol, COOX₃, SO₃H, SO₂NX₁X₂, CONX₁X₂, alkoxy, alkylmercapto, alkylamino, di-alkylamino, alkylsulfinyl, alkylsulfonyl or (when Z comprises a structure having two adjacent carbon atoms) methylene dioxy and X_4 comprises H or alkyl; or

R4 comprises $-(CH_2)_n-Q-(CH_2)_n-Z$,

Q comprises N, O, S, CH₃, SO₂ or OSO₂, each n independently comprises an integer from 0 to about 7,

Z comprises an unsaturated ring having 5 ring atoms and 0 to 4 independently selected heteroatoms as ring members fused to an unsaturated ring having 5 ring atoms and 0 to 4 independently selected heteroatoms as ring members, an unsaturated ring having 5 ring atoms and 0 to 4 independently selected heteroatoms as ring members fused to an unsaturated ring having 6 or 7 ring atoms and 0 to 5 independently selected heteroatoms as ring members or an unsaturated ring having 6 ring atoms and 0 to 5 independently selected heteroatoms as ring members

fused to an unsaturated ring having 6 or 7 ring atoms and 0 to 5 independently selected heteroatoms as ring members; or

R4 comprises $-CH_2-Q-(CH_2)_n-Z$,

Q comprises N, O, S, CH₃, SO₂ or OSO₂,

n is an integer from 0 to about 7,

Z comprises

R4 comprises $-T-(CH_2)_n-Z$,

n comprises an integer from 0 to about 7,

T comprises a carbocyclic ring having 3 to about 8 ring members, an unsaturated ring having 3 to about 8 carbon atoms as ring members, a heterocyclic ring having 3 to about 8 ring members, a heteroaromatic ring having 5 to about 8 ring members, a bicyclic ring, a heterobicyclic ring, a tricyclic ring, a heterotricyclic ring, a polycyclic ring or a heteropolycyclic ring,

Z comprises H, halogen, N_3 , NCS, CN, NO_2 , NX_1X_2 , OX_3 , OAc, O-acyl, O-aroyl, O(CH₂)_dOH, O(CH₂)_dNX₁X₂, NH-acyl, NH-aroyl, CHO, CF₃, COOX₃, SO₃H, SO₂NX₁X₂, CONX₁X₂, alkoxy, alkylmercapto, alkylamino, di-alkylamino alkylsulfinyl or alkylsulfonyl,

X₁ and X₂ each independently comprise H or alkyl, or

 X_1 and X_2 together comprise part of a heterocyclic ring having about 4 to about 7 ring members and optionally a second heteroatom selected from O, N or S, or

X₁ and X2 together comprise part of an imide ring having about 5 to about 6 members,

 X_3 comprises H, alkyl, hydroxyloweralkyl or alkyl-NX₁X₂, d is an integer from 0 to about 6; or

R4 comprises $-T-(CH_2)_n-Z$,

n comprises an integer from 0 to about 7,

T comprises a carbocyclic ring having 3 to about 8 ring members, an unsaturated ring having 3 to about 8 carbon atoms as ring members, a heterocyclic ring having 3 to about 8 ring members, a heteroaromatic ring having 5 to about 8 ring members, a bicyclic ring, a heterobicyclic ring, a tricyclic ring, a heterotricyclic ring, a polycyclic ring or a heteropolycyclic ring,

Z comprises a carbocyclic ring having about 4 to about 7 ring members, a heterocyclic ring having about 5 to about 7 ring members, a heteroaromatic ring having about 5 to about 7 ring members, a heteroaromatic ring having about 5 to about 7 ring members, a bicyclic ring, a heterobicyclic ring, a polycyclic ring, a heteropolycyclic ring; or any above group substituted on at least one available ring atom by an alkyl group; or any above group substituted on at least one available ring nitrogen atom by a benzyl group, a substituted benzyl group, an alkoxybenzyl group, a substituted benzhydryl group or a substituted benzhydryl group; and wherein the connecting point between the -(CH₂)_n-group and the Z group can be any available ring carbon atom or any available ring nitrogen atom; or

R4 comprises $-T-(CH_2)_n-Z$,

n comprises an integer from 0 to about 7,

T comprises a carbocyclic ring having 3 to about 8 ring members, an unsaturated ring having 3 to about 8 carbon atoms as ring members, a heterocyclic ring having 3 to about 8 ring members, a heteroaromatic ring having 5 to about 8 ring members, a bicyclic ring, a heterobicyclic ring, a

tricyclic ring, a heterotricyclic ring, a polycyclic ring or a heteropolycyclic ring,

Z comprises 1-, 2- or 3-pyrrolidinyl, 1-, 2-, 3- or 4-piperidinyl, 2-, 3- or 4-morpholinyl, 2-, 3- or 4-thiomorpholinyl, 1-, 2- or 3-azetidinyl, 1- or 2-piperazinyl, 2- or 3-tetrahydrofuranyl; or any above group substituted on at least one available ring atom by an alkyl group; or any above group substituted on at least one available ring nitrogen atom by a benzyl group, a substituted benzyl group, an alkoxybenzyl group, a substituted alkoxybenzyl group, a benzhydryl group or a substituted benzhydryl group; and wherein the connecting point between the -(CH₂)_n- group and the Z group can be any available ring carbon atom or any available ring nitrogen atom; or

R4 comprises $-T-(CH_2)_n-Z$,

n comprises an integer from 0 to about 7,

T comprises a carbocyclic ring having 3 to about 8 ring members, an unsaturated ring having 3 to about 8 carbon atoms as ring members, a heterocyclic ring having 3 to about 8 ring members, a heteroaromatic ring having 5 to about 8 ring members, a bicyclic ring, a heterobicyclic ring, a tricyclic ring, a heterotricyclic ring, a polycyclic ring or a heteropolycyclic ring,

Z comprises

wherein X and Y each independently comprise H, halogen, N_3 , NCS, CN, NO_2 , NX_1X_2 , OX_3 , OAc, O-acyl, O-aroyl, NH-acyl, NH-

aroyl, alcohol, CHO, CF₃, COOX₃, SO₃H, SO₂NX₁X₂, CONX₁X₂, alkoxy, alkylmercapto, alkylamino, di-alkylamino, alkylsulfinyl, alkylsulfonyl or (when Z comprises a structure having two adjacent carbon atoms) methylene dioxy,

X₁ and X₂ each independently comprise H or alkyl, or

X₁ and X₂ together comprise part of a heterocyclic ring having about 4 to about 7 ring members and optionally a second heteroatom selected from O, N or S, or

X₁ and X2 together comprise part of an imide ring having about 5 to about 6 members,

 X_3 comprises H, alkyl, hydroxyloweralkyl or alkyl- NX_1X_2 ,

X₄ comprises H or alkyl; or

R4 comprises $-T-(CH_2)_n-Z$,

n comprises an integer from 0 to about 7,

T comprises a carbocyclic ring having 3 to about 8 ring members, an unsaturated ring having 3 to about 8 carbon atoms as ring members, a heterocyclic ring having 3 to about 8 ring members, a heteroaromatic ring having 5 to about 8 ring members, a bicyclic ring, a heterobicyclic ring, a tricyclic ring, a heterotricyclic ring, a polycyclic ring or a heteropolycyclic ring,

Z comprises an unsaturated ring having 5 ring atoms and 0 to 2 independently selected heteroatoms as ring members fused to an unsaturated ring having 5 ring atoms and 0 to 4 independently selected heteroatoms as ring members, an unsaturated ring having 5 ring atoms and 0 to 4 independently selected heteroatoms as ring members fused to an unsaturated ring having 6 or 7 ring atoms and 0 to 5 independently selected heteroatoms as ring members or an unsaturated ring having 6 ring atoms and 0 to 5 independently selected heteroatoms as ring members fused to an unsaturated ring having 6 or 7 ring atoms and 0 to 5 independently selected heteroatoms as ring members; or

R4 comprises $-Ph-(CH_2)_n-Z$,

n comprises an integer from 0 to about 7,

Z comprises H, halogen, N_3 , NCS, CN, NO₂, NX₁X₂, OX₃, OAc, O-acyl, O-aroyl, O(CH₂)_dOH, O(CH₂)_dNX₁X₂, NH-acyl, NH-aroyl, CHO, CF₃, COOX₃, SO₃H, SO₂NX₁X₂, CONX₁X₂, alkoxy, alkylmercapto, alkylamino or di-alkylamino,

X₁ and X₂ each independently comprise H or alkyl, or

 X_1 and X_2 together comprise part of a heterocyclic ring having about 4 to about 7 ring members and optionally heteroatom selected from O, N or S, or

X₁ and X2 together comprise part of an imide ring having about 5 to about 6 members,

X₃ comprises H, alkyl, hydroxyloweralkyl or alkyl-NX₁X₂, d is an integer from 0 to about 6; or

R4 comprises -Ph-(CH₂)_n-Z,

n comprises an integer from 0 to about 7,

Z comprises

wherein X and Y each independently comprise H, halogen, N₃, NCS, CN, NO₂, NX₁X₂, OX₃, OAc, O-acyl, O-aroyl, NH-acyl, NH-aroyl, CHO, CF₃, alcohol, COOX₃, SO₃H, SO₂NX₁X₂, CONX₁X₂, alkoxy, alkylmercapto, alkylamino, di-alkylamino, alkylsulfinyl, lower-

alkylsulfonyl or (when Z comprises a structure having two adjacent carbon atoms) methylene dioxy,

X₁ and X₂ each independently comprise H or alkyl, or

X₁ and X₂ together comprise part of a heterocyclic ring having about 4 to about 7 ring members and optionally a second heteroatom selected from O, N or S, or

X₁ and X2 together comprise part of an imide ring having about 5 to about 6 members,

 X_3 comprises H, alkyl, hydroxyloweralkyl or alkyl- NX_1X_2 .

X₄ comprises H or alkyl; or

R4 comprises $-Ph-(CH_2)_n-Z$,

n comprises an integer from 0 to about 7,

Z comprises
$$-N$$
 E or $-N$ $N-E$

E comprises a C1 to about C4, linear or branched alkyl group, a phenyl group, a substituted phenyl group, a benzyl group or a substituted benzyl group; or

In a variation of the invention R4 comprises -Ph-(CH₂)_n-Z,

n comprises an integer from 0 to about 7,

Z comprises

$$-N$$
 , $-N$ $(CH_2)m$, $-N$ $(CH_2)m$ or $-N$ A_2

m is an integer from 1 to about 5,

 A_1 and A_2 each independently comprise a C1 to about C4 alkyl group, a phenyl group or a substituted phenyl group; and

R5 is present only when B is N and if present comprises H, alkyl or substituted alkyl;

with the provisos that:

when A is a direct bond and B is N then R1 cannot be H;

when A is not a direct bond and B is N then R3 cannot be H or a C1-C3 alkyl;

when A is a direct bond and B is N and R1 is a 6 member aromatic ring having 0 to 3 substituents independently selected from halogen, fluoromethyl and trifluoromethyl then R4 cannot be a 6 member aromatic ring having 0 to 3 substituents independently selected from halogen, fluoromethyl and trifluoromethyl;

when A is a direct bond and B is N and R5 is hydrogen and R2 has a nitrogen directly connected to the nitrogen of the amide at the 3-position of pyrazole ring, then R4 can not be a phenyl ring or a phenyl ring having one to three substitutions selected from halogen, trifluoromethyl, 1-pyrrolidinyl, 1-piperidinyl, 4-morpholinyl, 1-piperazinyl, lower-alkyl substituted 1-piperidinyl, lower-alkyl substituted 4-morpholinyl, and lower-alkyl substituted 1-piperazinyl.

2. The compound of claim 1, and physiologically acceptable salts thereof, wherein R4 comprises $-(CH_2)_n-Z$,

n comprises an integer from 0 to about 7,

Z comprises an unsaturated ring having 5 ring atoms and 0 to 4 independently selected heteroatoms as ring members fused to an unsaturated ring having 5 ring atoms and 0 to 4 independently selected heteroatoms as ring members, an unsaturated ring having 5 ring atoms and 0 to 4 independently selected heteroatoms as ring members fused to an unsaturated ring having 6 or 7 ring atoms and 0 to 5 independently selected heteroatoms as ring members or an unsaturated ring having 6 ring atoms and 0 to 5 independently selected heteroatoms as ring members fused to an unsaturated ring having 6 or 7 ring atoms and 0 to 5 independently selected heteroatoms as ring members.

3. The compound of claim 1, and physiologically acceptable salts thereof, wherein R4 comprises $-(CH_2)_n-Z$,

n comprises an integer from 0 to about 7,

Z comprises an unsaturated ring having 5 to 6 ring atoms and 0 to 5 independently selected heteroatoms as ring members fused to an unsaturated ring having 5 to 6 ring atoms and 0 to 5 independently selected heteroatoms as ring members.

4. The compound of claim 1, and physiologically acceptable salts thereof, wherein R4 comprises $-T_{-}(CH_{2})_{n}-Z$,

n comprises an integer from 0 to about 7,

T comprises a carbocyclic ring having 3 to about 8 ring members, an unsaturated ring having 3 to about 8 carbon atoms as ring members, a heterocyclic ring having 3 to about 8 ring members, a heteroaromatic ring having 5 to about 8 ring members, a bicyclic ring, a heterobicyclic ring, a tricyclic ring, a heterotricyclic ring, a polycyclic ring or a heteropolycyclic ring,

Z comprises an unsaturated ring having 5 ring atoms and 0 to 2 independently selected heteroatoms as ring members fused to an unsaturated ring having 5 ring atoms and 0 to 4 independently selected heteroatoms as ring members, an unsaturated ring having 5 ring atoms and 0 to 4 independently selected heteroatoms as ring members fused to an unsaturated ring having 6 or 7 ring atoms and 0 to 5 independently selected heteroatoms as ring members or an unsaturated ring having 6 ring atoms and 0 to 5 independently selected heteroatoms as ring members fused to an unsaturated ring having 6 or 7 ring atoms and 0 to 5 independently selected heteroatoms as ring members.

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- 5. The compound of claim 1, and physiologically acceptable salts thereof, wherein R4 comprises a phenyl ring linked to a terminal unsaturated ring having 5 ring members and 4 nitrogen atoms as ring members.
- 6. The compound of claim 1, and physiologically acceptable salts thereof, comprising one of structures 1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 1-7, 1-9, 1-10, 1-11, 1-13, 1-14, 1-15, 1-16, 1-17, 1-18, 1-19, 1-20, 1-21, 1-22, 1-23, 1-24, 1-25, 1-26, 1-27, 1-28, 1-29, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 2-7, 2-8, 2-9, 2-10, 2-11, 2-12, 2-13, 2-14, 2-15, 2-16, 2-17, 2-18, 2-19, 2-20, 2-21, 2-22, 3-1, 3-2, 3-3, 3-4, 3-5, 3-6, 3-7, 3-9, 3-12, 3-13, 3-14, 3-15, 3-16, 3-17, 3-18, 3-19, 3-20, 3-21, 3-22, 3-23, 3-24 or 3-25.
- 7. The compound of claim 1, and physiologically acceptable salts thereof, comprising one of structures 1-1, 1-2, 1-3, 1-4, 1-5 or 1-6.
- 8. The compound of claim 1, and physiologically acceptable salts thereof, comprising one of structures 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 2-7, 2-8, 2-9, 2-10, 2-11, 2-12, 2-13, 2-14, 2-15, 2-16, 2-17, 2-18, 2-19, 2-20, 2-21 or 2-22.
- 9. The compound of claim 1, and physiologically acceptable salts thereof, comprising one of structures 3-1, 3-2, 3-4, 3-5, 3-6, 3-19, 3-20 or 3-21.
- 10. The compound of claim 1 wherein wherein A comprises NH and B comprises N.
- 11. The compound of claim 1 wherein:

A is a direct bond;

B is N;

R1 comprises a phenyl ring substituted with 0 to 3 halogen atoms;

R2 comprises piperidine; and

R4 comprises $-T-(CH_2)_n-Z$,

n comprises an integer from 0 to about 7,

T comprises a carbocyclic ring having 3 to about 8 ring members, an unsaturated ring having 3 to about 8 carbon atoms as ring members, a heterocyclic ring having 3 to about 8 ring members, a heteroaromatic ring having 5 to about 8 ring members, a bicyclic ring, a heterobicyclic ring, a tricyclic ring, a heterotricyclic ring, a polycyclic ring or a heteropolycyclic ring,

Z comprises a carbocyclic ring having about 4 to about 7 ring members, a heterocyclic ring having about 4 to about 7 ring members, an aromatic ring having about 5 to about 7 ring members, a heteroaromatic ring having about 5 to about 7 ring members, a bicyclic ring, a heterobicyclic ring, a polycyclic ring, a heteropolycyclic ring; or any above group substituted on at least one available ring atom by an alkyl group; or any above group substituted on at least one available ring nitrogen atom by a benzyl group, a substituted benzyl group, an alkoxybenzyl group, a substituted alkoxybenzyl group, a benzhydryl group or a substituted benzhydryl group; and wherein the connecting point between the -(CH₂)_n-group and the Z group can be any available ring carbon atom or any available ring nitrogen atom.

12. The compound of claim 1 wherein:

A is a direct bond;

B is N;

R1 comprises a phenyl ring substituted with 0 to 3 halogen atoms;

R2 comprises piperidine; and

R4 comprises $-T-(CH_2)_n-Z$,

n comprises an integer from 0 to about 7,

T comprises a carbocyclic ring having 3 to about 8 ring members, an unsaturated ring having 3 to about 8 carbon atoms as ring members, a

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heterocyclic ring having 3 to about 8 ring members, a heteroaromatic ring having 5 to about 8 ring members, a bicyclic ring, a heterobicyclic ring, a tricyclic ring, a heterotricyclic ring, a polycyclic ring or a heteropolycyclic ring,

Z comprises

wherein X and Y each independently comprise H, halogen, N₃, NCS, CN, NO₂, NX₁X₂, OX₃, OAc, O-acyl, O-aroyl, NH-acyl, NH-aroyl, alcohol, CHO, CF₃, COOX₃, SO₃H, SO₂NX₁X₂, CONX₁X₂, alkoxy, alkylmercapto, alkylamino, di-alkylamino, alkylsulfinyl, alkylsulfonyl or (when Z comprises a structure having two adjacent carbon atoms) methylene dioxy,

X₁ and X₂ each independently comprise H or alkyl, or

 X_1 and X_2 together comprise part of a heterocyclic ring having about 4 to about 7 ring members and optionally a second heteroatom selected from O, N or S, or

X₁ and X2 together comprise part of an imide ring having about 5 to about 6 members,

 X_3 comprises H, alkyl, hydroxyloweralkyl or alkyl- NX_1X_2 ,

X₄ comprises H or alkyl.

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- 13. A pharmaceutical composition for an individual or animal comprising a therapeutically effective amount of at least one compound of claim 1 or a physiologically acceptable salt thereof.
- 14. The pharmaceutical composition of claim 13 wherein the compound of claim 1 comprises one of structures 1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 1-7, 1-9, 1-10, 1-11, 1-13, 1-14, 1-15, 1-16, 1-17, 1-18, 1-19, 1-20, 1-21, 1-22, 1-23, 1-24, 1-25, 1-26, 1-27, 1-28, 1-29, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 2-7, 2-8, 2-9, 2-10, 2-11, 2-12, 2-13, 2-14, 2-15, 2-16, 2-17, 2-18, 2-19, 2-20, 2-21, 2-22, 3-1, 3-2, 3-3, 3-4, 3-5, 3-6, 3-7, 3-9, 3-12, 3-13, 3-14, 3-15, 3-16, 3-17, 3-18, 3-19, 3-20, 3-21, 3-22, 3-23, 3-24 or 3-25.
- 15. A method of stimulating at least some cannabinoid receptors in an individual or animal comprising administering to the individual or animal a therapeutically effective amount of the compound of claim 1 or a physiologically acceptable salt thereof.
- 16. The method of claim 15 wherein the compound of claim 1 comprises one of structures 1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 1-7, 1-9, 1-10, 1-11, 1-13, 1-14, 1-15, 1-16, 1-17, 1-18, 1-19, 1-20, 1-21, 1-22, 1-23, 1-24, 1-25, 1-26, 1-27, 1-28, 1-29, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 2-7, 2-8, 2-9, 2-10, 2-11, 2-12, 2-13, 2-14, 2-15, 2-16, 2-17, 2-18, 2-19, 2-20, 2-21, 2-22, 3-1, 3-2, 3-3, 3-4, 3-5, 3-6, 3-7, 3-9, 3-12, 3-13, 3-14, 3-15, 3-16, 3-17, 3-18, 3-19, 3-20, 3-21, 3-22, 3-23, 3-24 or 3-25.
- 17. A method of selectively stimulating at least some CB1 cannabinoid receptors in an individual or animal comprising administering to the individual or animal a therapeutically effective amount of the compound of claim 1 or a physiologically acceptable salt thereof.

- 18. The method of claim 17 wherein the compound of claim 1 comprises one of structures 1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 1-7, 1-9, 1-10, 1-11, 1-13, 1-14, 1-15, 1-16, 1-17, 1-18, 1-19, 1-20, 1-21, 1-22, 1-23, 1-24, 1-25, 1-26, 1-27, 1-28, 1-29, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 2-7, 2-8, 2-9, 2-10, 2-11, 2-12, 2-13, 2-14, 2-15, 2-16, 2-17, 2-18, 2-19, 2-20, 2-21, 2-22, 3-1, 3-2, 3-3, 3-4, 3-5, 3-6, 3-7, 3-9, 3-12, 3-13, 3-14, 3-15, 3-16, 3-17, 3-18, 3-19, 3-20, 3-21, 3-22, 3-23, 3-24 or 3-25.
- 19. A method for the treatment of a disease in an animal or individual having that disease comprising administering to an individual or animal in need of such treatment a therapeutically effective amount of the compound of claim 1 or a physiologically acceptable salt thereof.
- 20. The method of claim 19 wherein the compound of claim 1 comprises one of structures 1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 1-7, 1-9, 1-10, 1-11, 1-13, 1-14, 1-15, 1-16, 1-17, 1-18, 1-19, 1-20, 1-21, 1-22, 1-23, 1-24, 1-25, 1-26, 1-27, 1-28, 1-29, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 2-7, 2-8, 2-9, 2-10, 2-11, 2-12, 2-13, 2-14, 2-15, 2-16, 2-17, 2-18, 2-19, 2-20, 2-21, 2-22, 3-1, 3-2, 3-3, 3-4, 3-5, 3-6, 3-7, 3-9, 3-12, 3-13, 3-14, 3-15, 3-16, 3-17, 3-18, 3-19, 3-20, 3-21, 3-22, 3-23, 3-24 or 3-25.